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INTELLIGENCE MEMORANDUM

EXPORTS OF FINNISH MERCHANT VESSELS TO THE USSR
1956-57

CIA/RR IM-454

12 July 1957

WARNING

THIS MATERIAL CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANING OF THE ESPIONAGE LAWS, TITLE 18, USC, SECS. 793 AND 794, THE TRANSMISSION OR REVELATION OF WHICH IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW.

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CIA/RR IM-45⁴
(ORR Project 35.179⁴)

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EXPORTS OF FINNISH MERCHANT VESSELS TO THE USSR*
1956-57

Summary

Finland is exporting merchant vessels to the USSR for a price that is not only less than the cost of producing the vessels in the USSR but also perhaps less than the cost of producing the vessels in Finland. Finland has been placed in this position partly by the system of reparations after World War II under which Finland expanded its shipbuilding industry in order to produce merchant vessels to be exported as reparations for the USSR. Because the shipbuilding industry of Finland had expanded considerably during the period of reparations, Finland had to continue exporting merchant vessels after this period or to cut production drastically. Such a cut would have resulted in a disturbance to the Finnish economy. Finland was unable to sell its merchant vessels to the Free World and so continued to export them to the USSR. There are now indications, however, that Finland is becoming somewhat less dependent on the USSR as a market for its merchant vessels.

The USSR manifests the bargaining power of its position by setting the prices of Finnish vessels without providing for increases in cost of materials and labor during the period of production. The Finnish government itself has paid for most of these increases in cost. In addition, the Bank of Finland has advanced interest-free loans to Finnish shipbuilding companies when the USSR has delayed in accepting vessels.

The estimated data on exports of merchant vessels by Finland to the USSR during 1956-57 show the advantages obtained by the USSR in its purchases of these vessels from Finland. It is estimated that during 1956 Finland exported to the USSR merchant vessels valued at 337 million rubles (1955 US \$54 million)** but that the USSR paid Finland only 211 million current rubles (\$34 million) for these vessels, or 63 percent

* The estimates and conclusions contained in this memorandum represent the best judgment of ORR as of 1 June 1957.

** The value in rubles of merchant vessels throughout this memorandum was computed on the basis of the estimated cost of producing these vessels in the USSR at the ruble values used in setting up the Fifth Five Year

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of what it would have cost the USSR to produce the vessels. It is estimated that during 1957 Finland will export to the USSR merchant vessels valued at 290 million rubles (\$46 million) and that the USSR is to pay Finland only 166 million current rubles (\$26 million) for these vessels, or 57 percent of what it would cost the USSR to produce the vessels.

1. Introduction.

There has been continued speculation as to why the USSR, in recent years, has been buying so many merchant vessels from Finland and other countries, in both the Free World and the Sino-Soviet Bloc, when the Soviet merchant shipbuilding industry apparently is operating at only about 50 percent of capacity on a one-shift basis. Comparative costs of merchant vessels may provide an answer to this question. Finland is an example of a country from which the USSR obtains vessels at prices less than the estimated Soviet cost of building similar vessels.

2. Exports During 1956.

During 1956, Finland exported to the USSR merchant vessels having an estimated value of 337 million rubles (\$54 million). The types of vessels exported to the USSR during 1956 are shown in Table 1.* In terms of Soviet cost, maritime vessels accounted for 45 percent of the value of all merchant vessels exported by Finland to the USSR, inland vessels for 36 percent, and fishing vessels for the remaining 19 percent. The payment made by the USSR to Finland for these vessels was 211 million current rubles (\$34 million), $\frac{3}{4}$ or 63 percent of the estimated cost of producing these vessels in the USSR. The value of merchant

Plan (1951-55), unless otherwise stated. $\underline{1/}$ (For serially numbered source references, see Appendix B.) With a probability of 95 percent, the range of error for Soviet cost of production is estimated to be plus or minus 15 percent and that for US cost plus or minus 10 percent. Although the cost of heavy goods has declined since 1951, the cost of shipbuilding probably has been reduced only about 10 percent and therefore would not modify the conclusions contained in this memorandum. For the purposes of this memorandum, the 1951-55 Plan rubles are assumed to equal current rubles. The value in dollars of merchant vessels throughout this memorandum was computed on the basis of the cost of producing these vessels in the US during 1955, according to prices used in source $\underline{2/}$.

* Appendix A, p. 8, below.

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vessels exported by Finland to the USSR during 1956-57 is shown in the accompanying chart.*

3. Exports During 1957.

The estimate of exports of merchant vessels by Finland to the USSR during 1957 is 290 million rubles (\$46 million), which is 14 percent less than the estimate for 1956. The types of vessels to be sent to the USSR during 1957 are shown in Table 2.** Measured in Soviet cost, 53 percent of these vessels will be maritime vessels, 30 percent inland vessels, and the remaining 17 percent fishing vessels. It is reported that during 1957 the USSR will pay 166 million current rubles (\$26 million) for these vessels. 4/ This cost is 57 percent of the estimated cost of producing similar vessels in the USSR.

4. Finnish Losses.

The precise cost of producing merchant vessels for the USSR in Finland during 1956-57 is not known, but the cost to Finland generally is thought to be at least as high as the cost of building similar vessels would be to the USSR.*** The similarity in cost would indicate that the Finnish shipyards, which are devoted primarily to producing vessels for export to the USSR, are operating at a loss; and analysis of these exports has revealed such a loss.

Soviet bargaining power has its basis in the manner in which reparations were collected from Finland after World War II. Reparations were paid in exports of merchandise to the USSR. Finnish industry became specialized in production of goods, such as merchant vessels, which the USSR wanted as reparations. 5/ When the payment of reparations ceased, Finland was dependent on Soviet markets. Finland was not able to find enough buyers in the Free World to sustain its expanded shipbuilding industry, primarily because Finnish cost of production is higher than that of the major shipbuilding countries of the world. The unfavorable Soviet trade offers, therefore, very often are accepted instead of the alternative, a reorientation of Finnish industry with accompanying economic dislocation.

* Following p. 4. For supporting data, see Tables 1 and 2, Appendix A, p. 8 and p. 10, respectively, below.

** Appendix A, p. 10, below.

*** Information from the US Maritime Administration, based on attaché dispatches, suggests that the cost of producing Finnish merchant vessels is about equal to that of the US, where the cost is known to be the highest of any important shipbuilding country in the world. Information on cost in the Soviet shipbuilding industry suggests no reason to suppose that Soviet cost is any higher than that of the US but rather that Soviet cost may even be lower mostly because of the lower cost of labor. Therefore, Finnish cost is at least equal to Soviet cost.

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One of the manifestations of Soviet bargaining power is an insistence on fixing a final price in advance without any provision for escalation in the event that increased cost of production results at the time of final delivery in a higher cost than anticipated. 6/ (In trading with other countries of the Free World the USSR provides for escalation.) The Finnish government in the past has assumed the burden of escalation of cost and has paid up to 75 percent of increases in cost during the period of production for merchant vessels. 7/ Payments under this policy have been declining since 1952, when they were 378 million current finnmarks (current \$1.6 million). 8/ The appropriation for 1955 was 100 million current finnmarks (current \$435,000), a sum which is reported to be more than adequate to cover rising cost. 9/

To cope with a situation in which vessels are not paid for until they have been delivered, the Bank of Finland has advanced interest-free loans to the Finnish companies involved. Before making a payment on the delivery of a vessel, the USSR insists that the vessel satisfy all Soviet specifications. The rigorous adherence to the specifications which the USSR demands often results in added cost and added delays before the Finnish companies are paid for their vessels. 10/

It has been reported that financial difficulties caused by deliveries of vessels to the USSR brought about a reorganization in 1955 of shipyards owned by the Finnish government. This reorganization was an effort to minimize or to avoid losses. 11/ The deficit in the operations of the 2 government-owned shipyards, at Turku and at Helsinki, was 671 million current finnmarks (current \$2.9 million) in 1954. 12/ A list of Finnish shipyards, with the number of workers in each shipyard included as an indication of the relative size of the shipyard, is shown in Table 3.* The cost of the Soviet practices in recent years, however, is small compared with the burden that the USSR placed on the shipbuilding industry of Finland during the period of reparations after World War II. 13/

5. Dependence of Finland on the USSR.

During 1956, Finnish production of merchant vessels became significantly less dependent on orders from the Soviet Bloc. At the end of 1955, production of merchant vessels for the USSR constituted 85 to 90 percent of the then current contracts of the Finnish shipbuilding industry. In January 1957, however, 43 percent of production by the largest

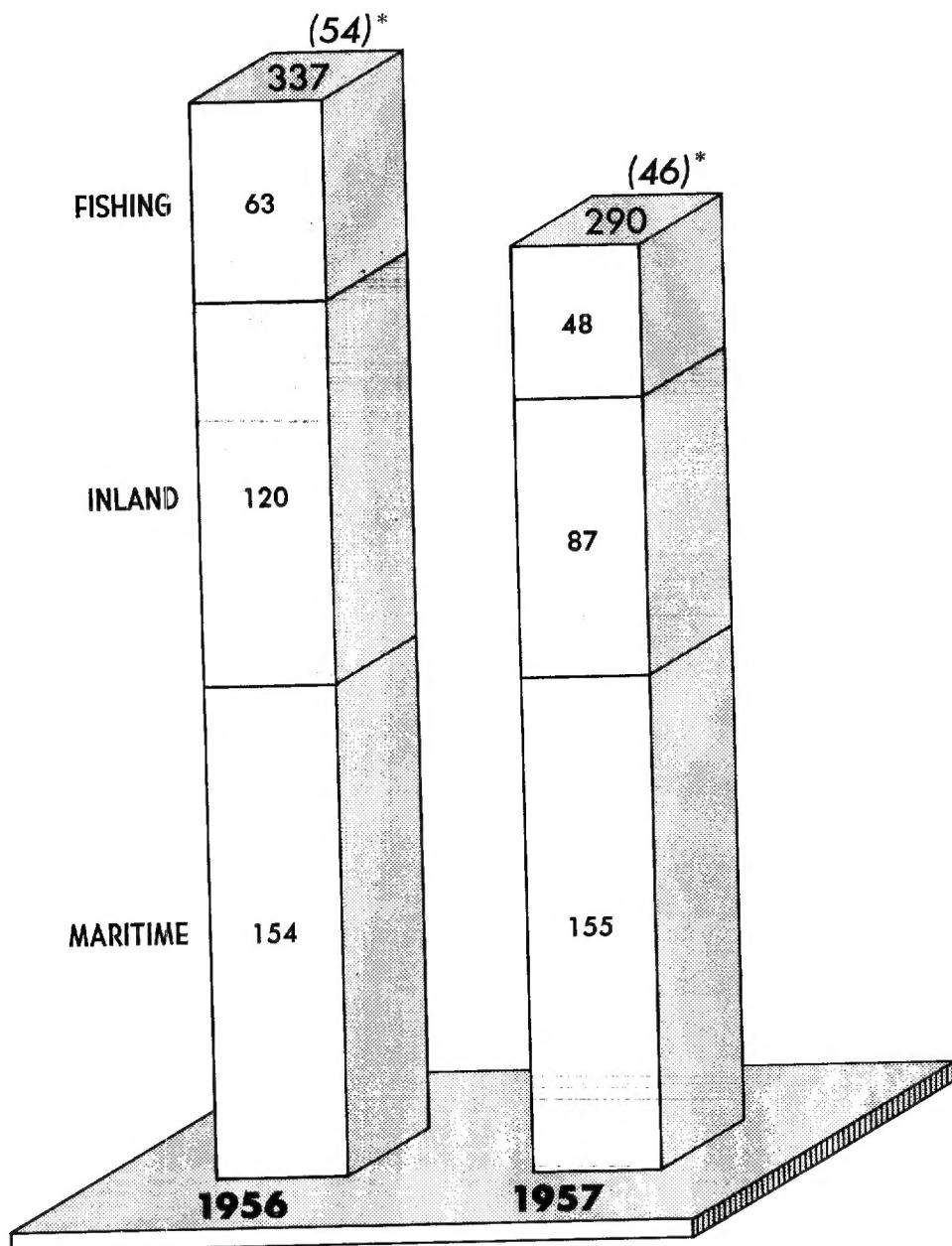
* Appendix A, p. 12, below.

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FINLAND

**ESTIMATED VALUE OF EXPORTS
OF MERCHANT VESSELS TO THE USSR
1956-57**

Millions of 1951-55 rubles (planning prices)



**Millions of 1955 US dollars (cost of producing these vessels in the US)*

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Finnish shipyard, owned by the Wartsila Concern, was for the USSR, whereas the remainder was for the Free World and domestic use. 14/ The activities of this shipyard may be indicative of a changing trend during the past year, although other shipyards are still heavily engaged in orders for the Soviet account.

Table 1

Exports of Merchant Vessels by Finland to the USSR
 1956

| Type of Vessel | <u>Number of Vessels a/</u> | <u>Light Ship Tons b/ per Vessel</u> | <u>Total Light Ship Tons</u> | <u>Value (Thousands Rubles per Light Ship Ton)</u> | <u>Total Value (Million Rubles) c/</u> |
|----------------------------------|-----------------------------|--------------------------------------|------------------------------|--|--|
| Maritime | | | | | |
| Cargo steam vessel, 3,200 DWT d/ | 1 | 1,770 | 1,770 | 5.8 | 10 |
| Cargo motor vessel, 3,100 DWT | 3 | 1,770 | 5,310 | 5.8 | 31 |
| Cargo motor vessel, 8,500 DWT | 1 | 3,900 | 3,900 | 5.8 | 23 |
| Tanker, 4,000 DWT | 2 | 1,440 | 2,880 | 5.5 | 16 |
| Icebreaker | 1 | 2,100 | 2,100 | 7.6 | 16 |
| Tugboat, 800 hp e/ | 16 | 588 | 9,408 | 5.6 | 53 |
| Floating crane | 5 | 200 | 1,000 | 4.8 | 5 |
| Inland | | | | | |
| Barge 2,000 DWT | 6 | 900 | 5,400 | 4.0 | 22 |
| Barge 1,000 DWT | 74 | 380 | 28,120 | 3.5 | 98 |
| Fishing | | | | | |
| Trawler, 800 hp | 4 | 545 | 2,180 | 14.0 | 31 |
| Seal catcher | 15 | 150 | 2,250 | 14.0 | 32 |
| Total | <u>128</u> | | <u>64,318</u> | | <u>337 f/</u> |

a. 15/

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APPENDIX A

STATISTICAL TABLES

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Table 1

Exports of Merchant Vessels by Finland to the USSR
1956
(Continued)

b. Light ship displacement is the weight (in metric tons) of the vessel complete, ready for service in every respect, including permanent ballast and liquids in the machinery at operating levels but excluding the crew and their effects and any items of consumable or variable load such as stores, fuel, and cargo.

c. The value in rubles of merchant vessels throughout this table was computed on the basis of the estimated cost of producing these vessels in the USSR at the ruble values used in setting up the Fifth Five Year Plan (1951-55), unless otherwise stated. 16/ With a probability of 95 percent, the range of error for Soviet cost of production is estimated to be plus or minus 15 percent and that for US cost plus or minus 10 percent. Although cost of heavy goods has declined since 1951, cost of shipbuilding probably has been reduced only about 10 percent and therefore would not modify the conclusions contained in this memorandum. The 1951-55 Plan rubles, therefore, are assumed to equal current rubles.

d. Deadweight tons. The deadweight tonnage of a vessel is the carrying capacity (in tons of 2,240 pounds) of the vessel. It includes the crew and their effects and all items of consumable or variable load such as stores, fuel, and cargo. The deadweight tonnage is the difference in tons between full load displacement and light ship displacement.

e. Horsepower.

f. Equal to 1955 US \$54 million. This value was computed on the basis of the cost of producing merchant vessels in the US during 1955, according to prices used in source 17/.

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Table 2

Exports of Merchant Vessels by Finland to the USSR
1957

| Type of Vessel | Number of Vessels ^{a/} | Light Ship Tons ^{b/} per Vessel | Total Light Ship Tons | Value (Thousand Rubles per Light Ship Ton) | Total Value (Million Rubles) ^{c/} |
|---|---------------------------------|--|-----------------------|--|--|
| <u>Maritime</u> | | | | | |
| Cargo motor vessel, 8,500 DWT ^{d/} | 1 | 3,900 | 3,900 | 5.8 | 23 |
| Cargo motor vessel, 3,100 DWT | 3 | 1,770 | 5,310 | 5.8 | 31 |
| Tugboat, 1,700 hp ^{e/} | 3 | 750 | 2,250 | 5.6 | 13 |
| Tugboat, 800 hp | 12 | 588 | 7,056 | 5.6 | 40 |
| Tugboat, 400 hp | 4 | 264 | 1,056 | 5.6 | 6 |
| Floating drydock, 3,000 DWT | 5 | 2,400 | 12,000 | 3.5 | 42 |
| <u>Inland</u> | | | | | |
| Barge, 1,000 DWT | 60 | 380 | 22,800 | 3.5 | 80 |
| Barge, 2,000 DWT | 2 | 900 | 1,800 | 4.0 | 7 |
| <u>Fishing</u> | | | | | |
| Trawler, 800 hp | 3 | 545 | 1,635 | 14.0 | 23 |
| Seal catcher | 12 | 150 | 1,800 | 14.0 | 25 |
| Total | <u>105</u> | | <u>59,607</u> | | <u>290 f/</u> |

a. 18/

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Table 2

Exports of Merchant Vessels by Finland to the USSR
1957
(Continued)

b. Light ship displacement is the weight (in metric tons) of the vessel complete, ready for service in every respect, including permanent ballast and liquids in the machinery at operating levels but excluding the crew and their effects and any items of consumable or variable load such as stores, fuel, and cargo.

c. The value in rubles of merchant vessels throughout this table was computed on the basis of the estimated cost of producing these vessels in the USSR at the ruble values used in setting up the Fifth Five Year Plan (1951-55), unless otherwise stated. 19/ With a probability of 95 percent, the range of error for Soviet cost of production is estimated to be plus or minus 15 percent and that for US cost plus or minus 10 percent. Although cost of heavy goods has declined since 1951, cost of shipbuilding probably has been reduced only about 10 percent and therefore would not modify the conclusions contained in this memorandum. The 1951-55 Plan rubles, therefore, are assumed to equal current rubles.

d. Deadweight tons. The deadweight tonnage of a vessel is the carrying capacity (in tons of 2,240 pounds) of the vessel. It includes the crew and their effects and all items of consumable or variable load such as stores, fuel, and cargo. The deadweight tonnage is the difference in tons between full load displacement and light ship displacement.

e. Horsepower.

f. Equal to 1955 US \$46 million. This value was computed on the basis of the cost of producing merchant vessels in the US during 1955, according to prices used in source 20/.

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Table 3

Labor Force of Shipbuilding Facilities in Finland a/
1956

| Facility | Owner | Location | Number of Workers | Percent |
|--------------------------------------|-----------------------|----------|-------------------|------------|
| Crichton-Vulcan Shipyard | Wartsila Concern | Turku | 3,000 | 33 |
| Sandvikens Shipyard | Wartsila Concern | Helsinki | 1,060 | 12 |
| Valmet Shipyard | b/ | Helsinki | 600 | 7 |
| Rauma Shipyard and Engineering Shops | Rauma Repola Company | Rauma | 950 | 10 |
| Valmet Shipyard | b/ | Turku | 1,000 | 11 |
| Valkon Shipyard | Rauma Repola Company | Loviisa | 500 | 5 |
| Oy Laivateollisuus Ab Shipyard | Ship Industry Company | Turku | 960 | 10 |
| Vaasa Engineering Shops | Wartsila Concern | Vaasa | 100 | 1 |
| Miscellaneous facilities | | | 1,000 c/ | 11 |
| Total | | | <u>9,170</u> | <u>100</u> |

a. 21/

b. Owned by the government.

c. Estimated.

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APPENDIX B

SOURCE REFERENCES

Evaluations, following the classification entry and designated "Eval.," have the following significance:

| <u>Source of Information</u> | <u>Information</u> |
|------------------------------|--------------------------------|
| Doc. - Documentary | 1 - Confirmed by other sources |
| A - Completely reliable | 2 - Probably true |
| B - Usually reliable | 3 - Possibly true |
| C - Fairly reliable | 4 - Doubtful |
| D - Not usually reliable | 5 - Probably false |
| E - Not reliable | 6 - Cannot be judged |
| F - Cannot be judged | |

"Documentary" refers to original documents of foreign governments and organizations; copies or translations of such documents by a staff officer; or information extracted from such documents by a staff officer, all of which may carry the field evaluation "Documentary."

Evaluations not otherwise designated are those appearing on the cited document; those designated "RR" are by the author of this memorandum. No "RR" evaluation is given when the author agrees with the evaluation on the cited document.

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2. CIA. ORR Project 35.1743, Merchant Shipbuilding in the USSR (to be published). S.
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7. Ibid., dsp 288, 4 Jan 55. OFF USE. Eval. RR 2.

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12. Navy. ONI-99-55, 18 May 55. Eval. C-3.
13. State, Helsinki. Dsp 288, 4 Jan 55. OFF USE. Eval. RR 2.
14. Ibid., dsp 230, 10 Jan 57. OFF USE. Eval. RR 2.
15. Ibid.
16. CIA. CIA/RR IM-448 (1, above).
17. CIA. ORR Project 35.1743 (2, above).
18. State, Helsinki. Dsp 230, 10 Jan 57. OFF USE. Eval. RR 2.
19. CIA. CIA/RR IM-448 (1, above).
20. CIA. ORR Project 35.1743 (2, above).
21. Navy. ONI-29-56, 6 Feb 56. Eval. B-3.

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